Comprehensive Review of Pennichuck Corporation

November 6, 2002

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Purpose of Study

Evaluate the following aspects of Pennichuck Corporation:

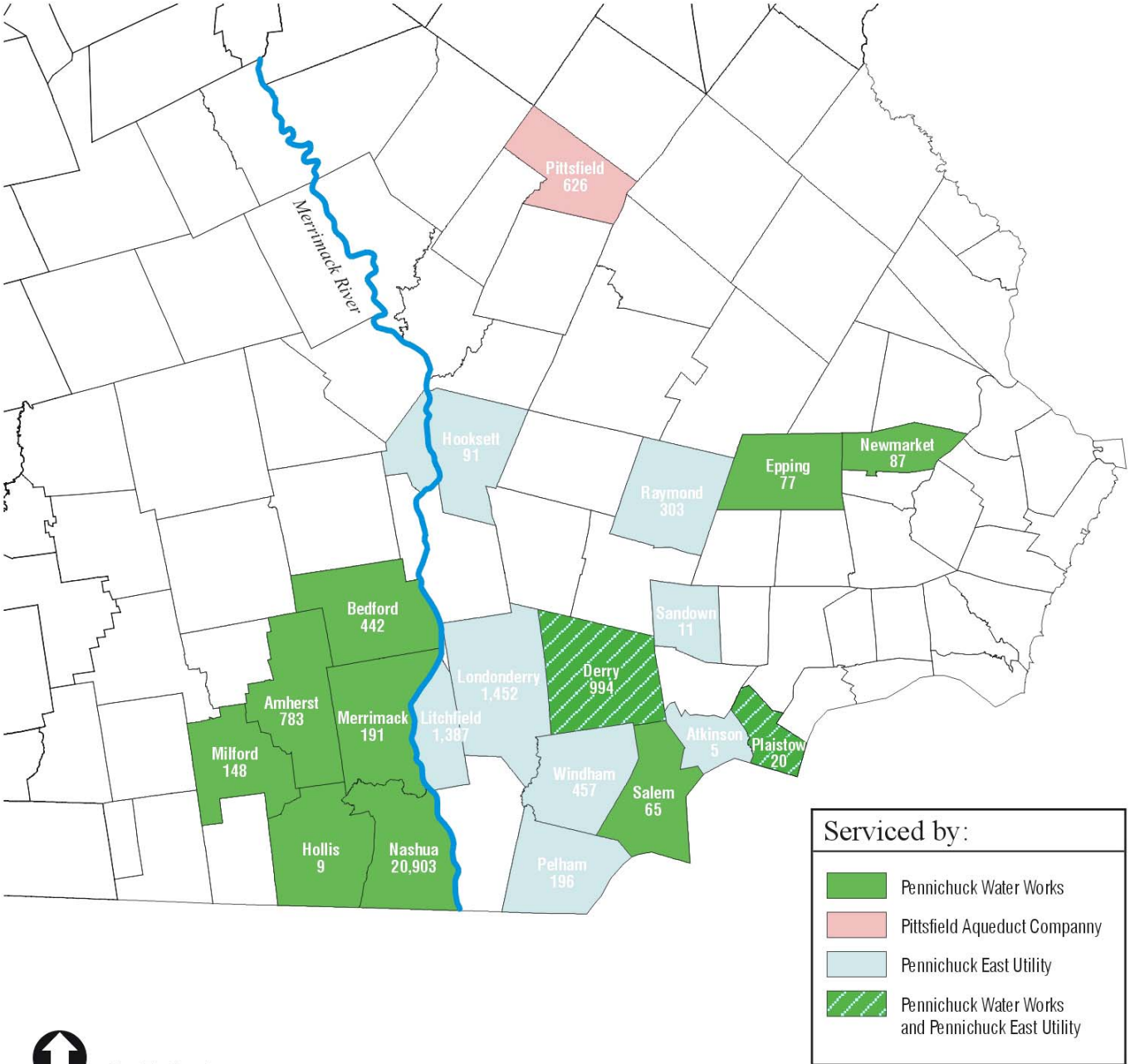
- Pennichuck Corporation Overview
- Watershed Protection
- Water Supply
- Water Distribution and Treatment System
- Capital Improvements
- Financial Feasibility
- Opportunities and Recommendations

Pennichuck Corporation

Holding Company that owns the following subsidiaries:

- Pennichuck Water Works, Inc. (Pennichuck Water Works)
- Pennichuck East Utility , Inc. (Pennichuck East)
- Pittsfield Aqueduct Company, Inc. (Pittsfield)
- The Southwood Corporation (Southwood)
- Pennichuck Water Service Corporation (Service Corp)

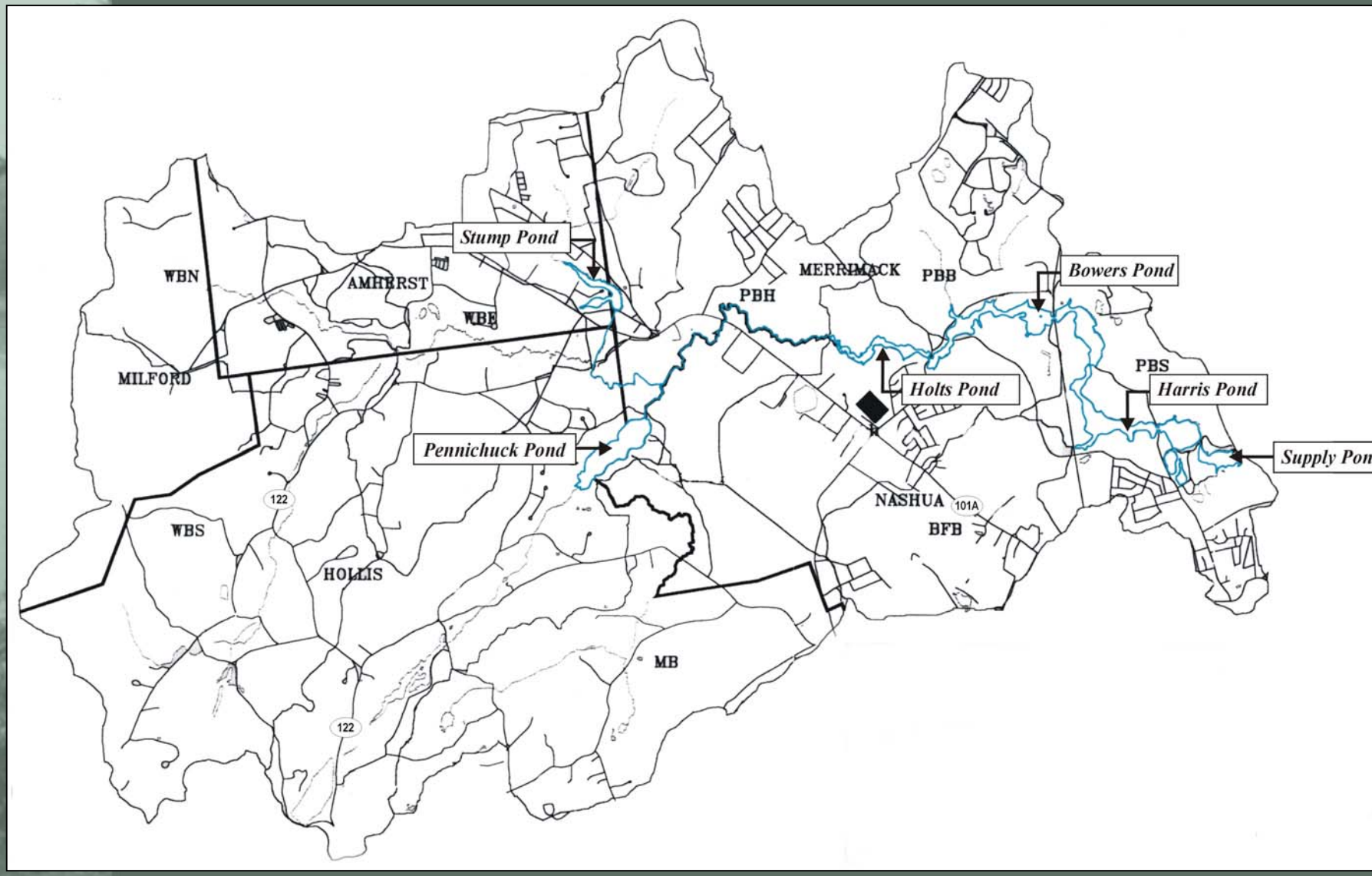
Pennichuck Corp. – Water Utilities Service Area



Pennichuck Water Works – Connections Served

	Connections Served by Pennichuck	Percent Served	Percent Served Core System
Nashua	20,902	88.4%	94.9%
Amherst	783	3.3%	3.5%
Merrimack	191	0.8%	0.9%
Milford	148	0.6%	0.7%
Hollis	9	0.1%	0.0%
Bedford	442	1.9%	
Derry	776	3.3%	
Plaistow	154	0.6%	
Epping	77	0.3%	
Salem	65	0.3%	
Newmarket	87	0.4%	
Total	**23,634**		

Watershed Protection



Source: Pennichuck Water Works Watershed Management Plan, August 1998

Pennichuck Pond System

Watershed Characteristics

	Cumulative Drainage Area (acres)	Pond Surface Area (acres)	Pond Storage (MG)
Stump Pond	1,516	21	Unknown
Pennichuck Pond	4,295	57	Unknown
Holts Pond	14,171	23	Unknown
Bowers Pond	15,955	92	180 at full pond
Harris Pond	17,199	78 at spillover	340 at spillover
Supply Pond	17,598	16	Unknown

Source: Pennichuck Water Works Watershed Management Plan, August 1998

Land Holdings Summary

	Area within Nashua (Acres)	Area within Merrimack (Acres)	Total Area (Acres)
Critical Areas	395	105	500
Buffer Zone	335	170	505
Alternative Use Area	600	385	985
Total	**1330**	**660**	**1990**

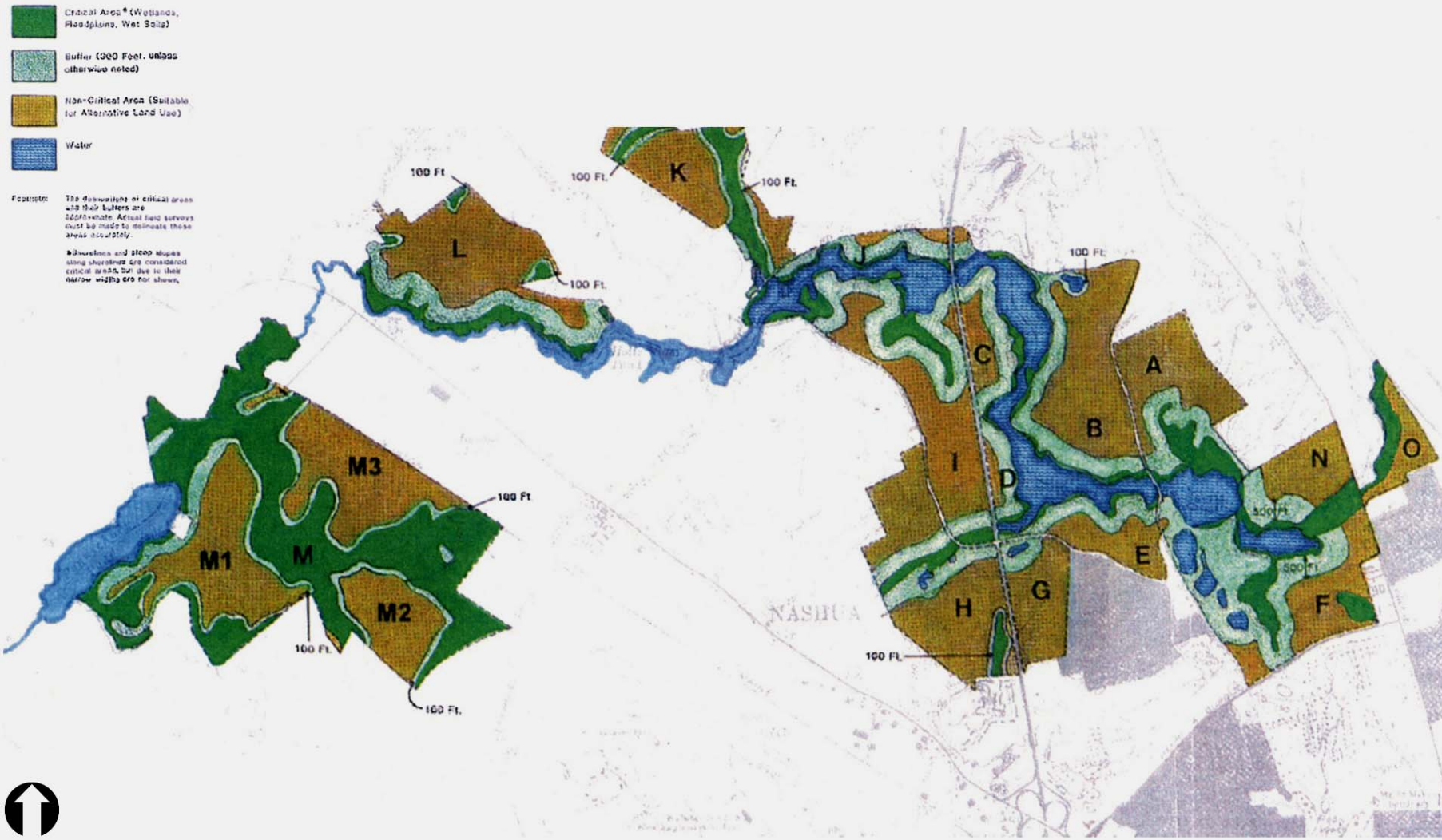
Source: "An Evaluation of Pennichuck Water Works Land Holdings as They Relate to Water Quality and Supply," June 1980

In 1983 Pennichuck Corporation transferred 1,088 acres of Buffer Zone and Alternative Use Areas to Southwood Corporation at a cost of $39,000

Southwood Corporation sold and/or developed 796 of those acres between 1984 and 2001

Based on 1990 dollars, the value of the 796 acres of land is estimated to

Land Holdings Summary



Source: "An Evaluation of Pennichuck Water Works Land Holdings as They Relate to

Watershed Management Plan

PWW - Current Plan	*Recommended Modifications*
• Storm Water Management	• *Storm Water Management*
• Pond Eutrophication	• *Pond Eutrophication*
• Buffer Zones/Land Acquisition	• *Buffer Zones/Land Acquisiti*
• Transportation Impacts	• *Transportation Impacts*
• Agricultural Impacts	
• Individual Septic Systems	• *Individual Septic Systems*
• Public Education	
• Watershed Protection	• *Watershed Protection*
• Regulatory Authority	
	• ***Recreational Activities***
	• ***System Security***

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Watershed Management - Conclusions

- Acquire Land or Easements – Discontinue Sale of Current Land
- Land Sale Revenue Should Benefit Water System and the Rate Payers
- Public System has Greater Influence on Regulatory Land Use Controls
- Management Plan Should be
  - Implemented
  - Modified

Water Supply

System Yield

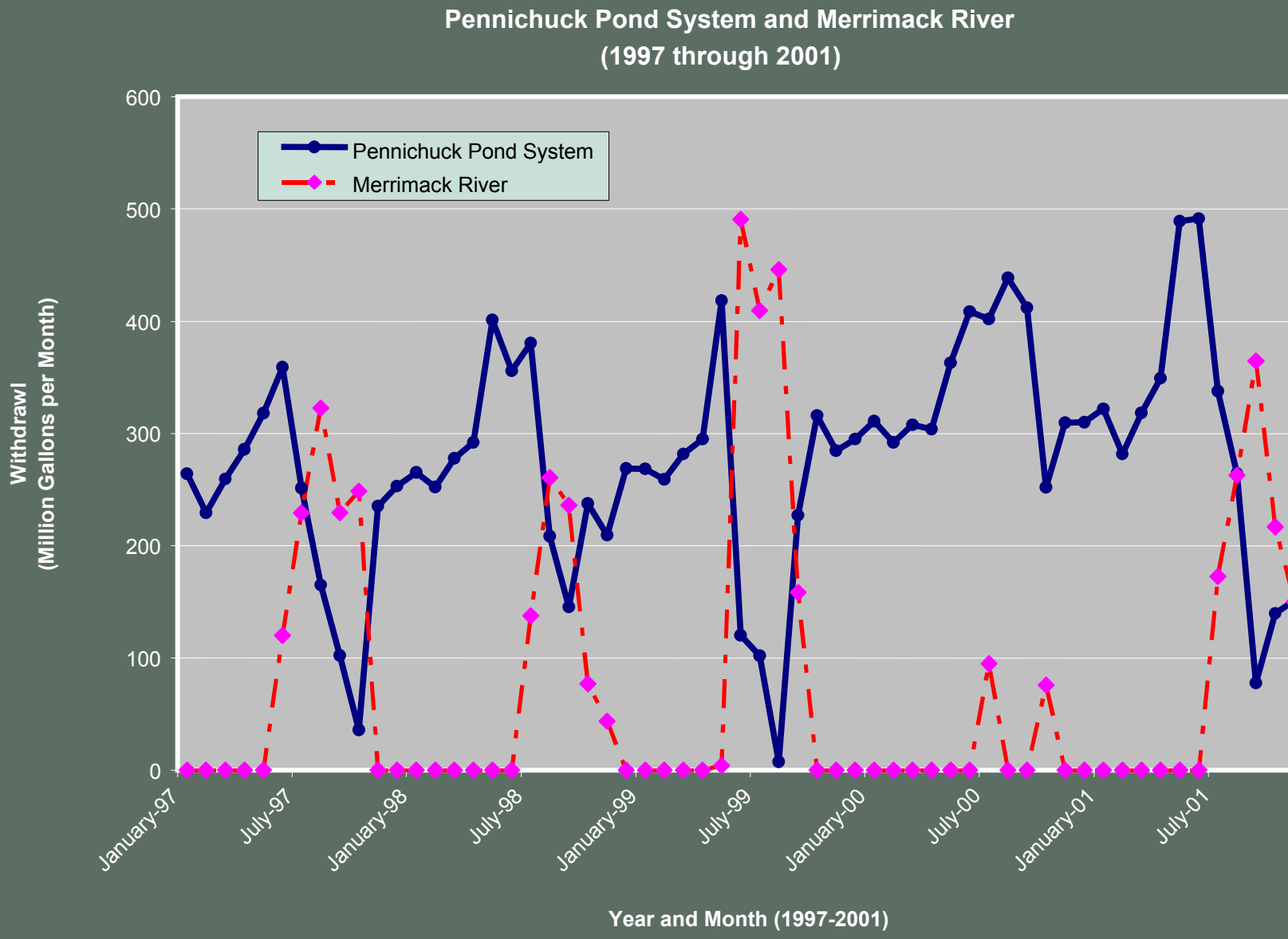
Pond System (Safe Yield)	6.3 mgd
Merrimack River (Permitted Yield)	12 – 30 mgd
Total Yield =	18 – 36 mgd

System Volume

	Maximum Pond Depth (Feet)	Sediment Volume (Cubic Yards)	Sediment Volum (Million Gallons
Holts Pond	6	59,000	11.9
Bowers Pond	20	238,000	48.1
Harris Pond	26	243,000	49.1
Supply Pond	19	33,000	6.7

Source: "Sediment Study of Pennichuck Ponds," July 2000

Water Supply – System Demand



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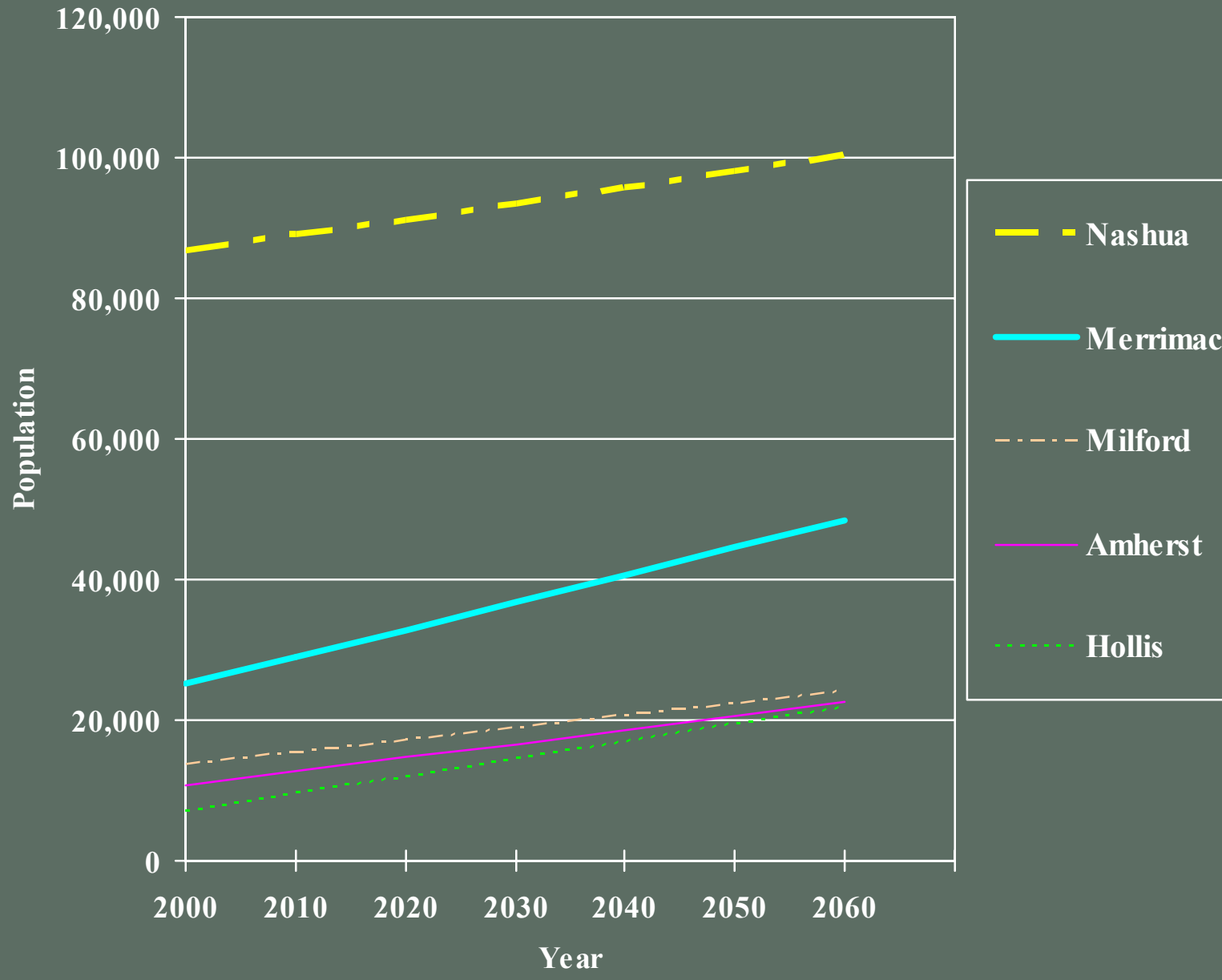
Water Supply - Estimated Population Growth



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Pennichuck Pond System

Water Supply - Conclusions

- Summertime Demand (20 mgd) > Minimum Yield (18 mgd)
- Merrimack River Withdrawal – Army Corps of Engineers Permit Renewal 2004
- City Needs to Continue to Play a Major Role in Allocation of Merrimack River Water Resources
- Ponds Need Dredging
- Evaluate Options to Increase Supply to Meet and Exceed Future Demand
- Single Source of Water Can be Vulnerable

Water Distribution & Treatment System

Pennichuck Water Works – Core System

397 miles of distribution and transmission lines
23,820 water meters
2,223 hydrants
Water intake plant
11 storage tanks
Water treatment plant

Within the City of Nashua

300 miles of distribution and transmission lines
20,000 water meters
2,000 hydrants
5 storage tanks
Water treatment plant

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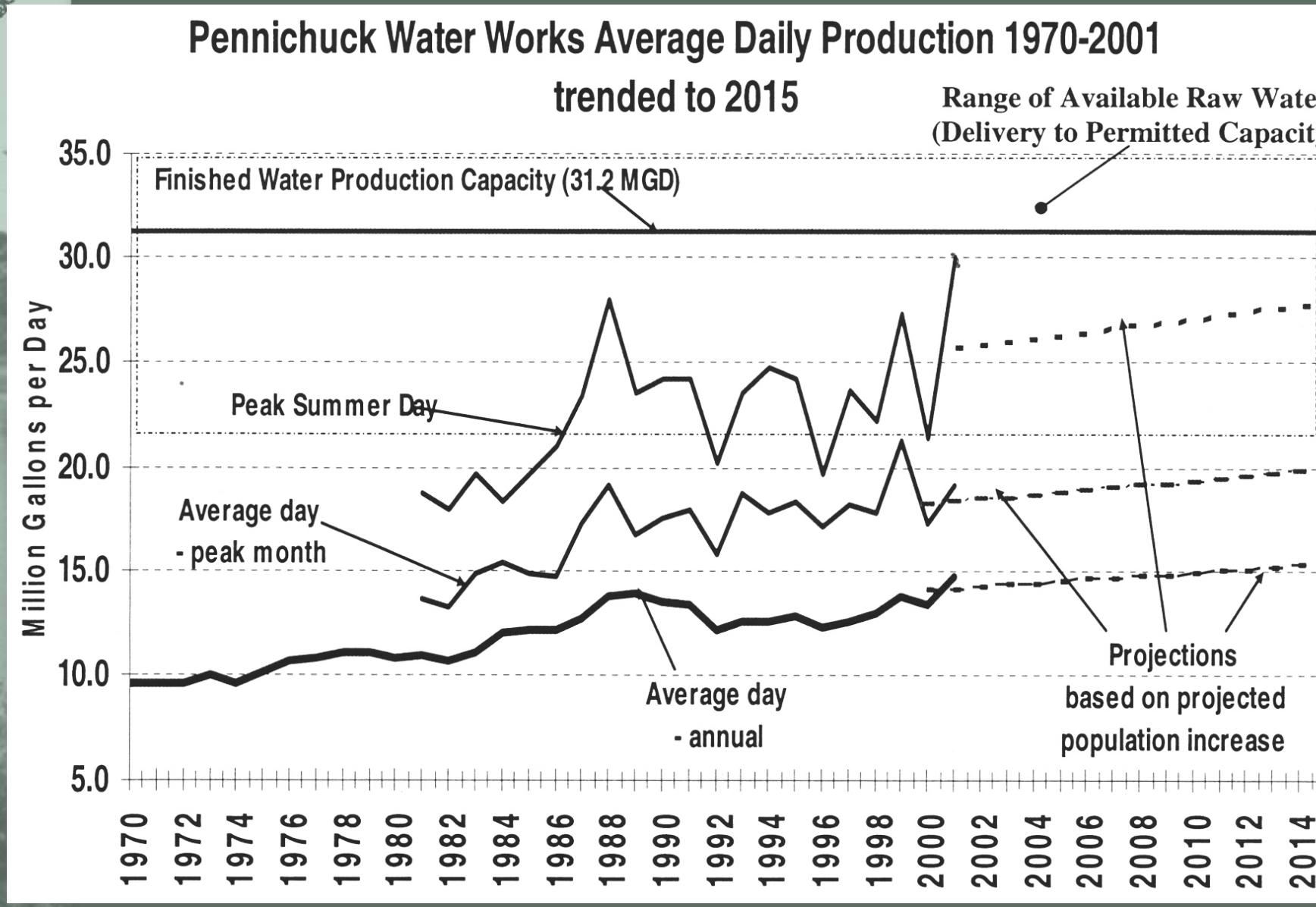
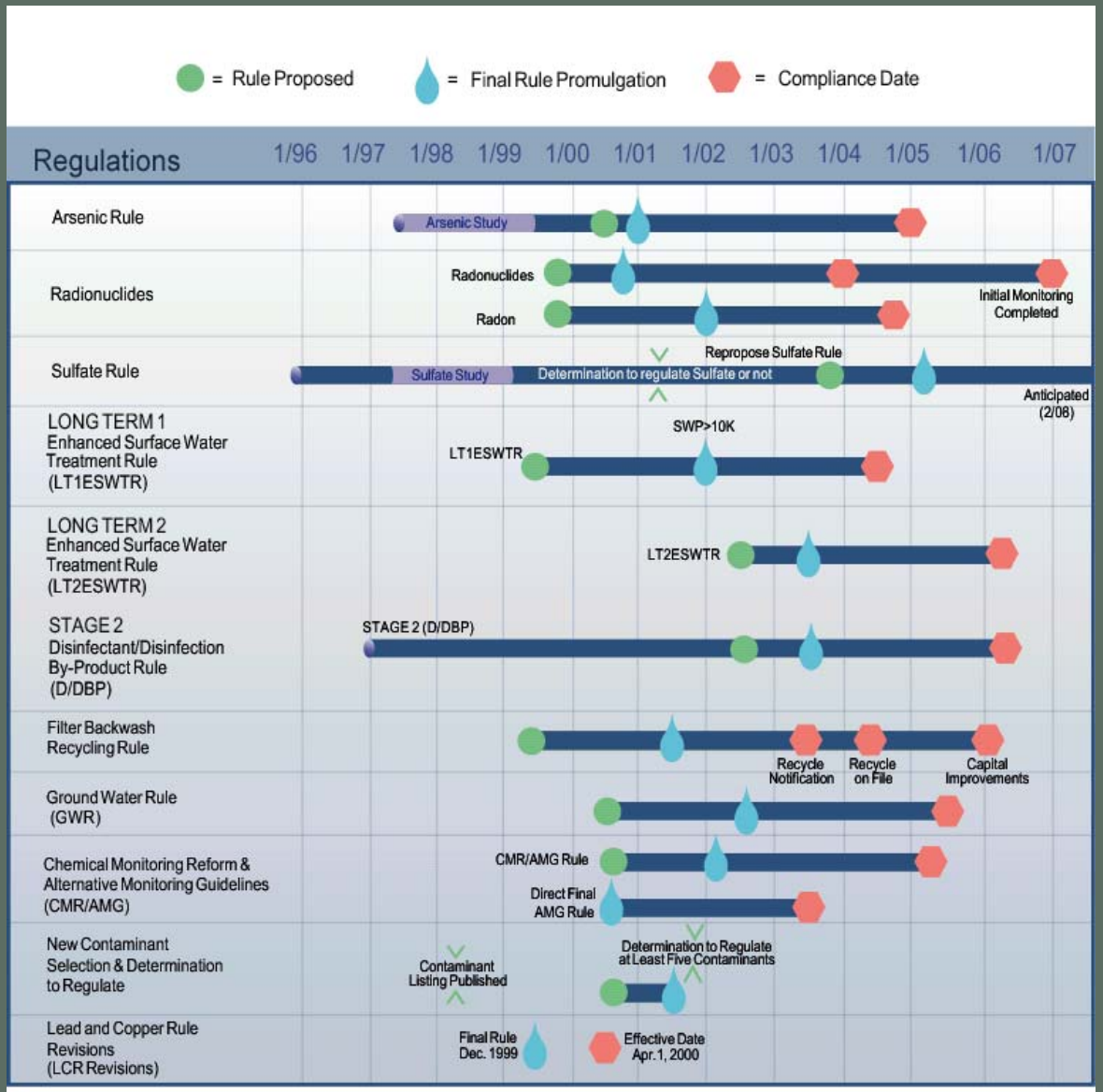
Treatment Plant - Average Daily Production



Source: Pennichuck Water Works, "Integrated Resource Plan"

Water Treatment System - Future Regulations



SWP = Surface Water Plants
GWP = Ground Water Plants
K = Population Served in Thousands

Water Treatment & Distribution - Conclusions

- Distribution System Seems to Have an Unplanned Approach for Extensions and Expansions
- Significant Regulatory Changes in the Next 5 Years
- One Day of Storage in the System

Study Recommended Capital Improvements (In Million Dollars)

Implementation	2002-7	2008-12	2013-17	2018-22	2023-27	202
Dredging Pond System	$ 11.4	$ 12.9				
Future Supply Source	Unknown					
Direct Connection from the Merrimack River Intake Line	$ 1.5					
Upgrades to the Merrimack River Intake Facility		$ 5.4				
Watershed Management Plan	$ 2.4	$ 1.5	$ 1.7	$ 1.9	$ 2.2	$ 2
Treatment Plant Replacements	$ 1.2	$ 1.4	$ 1.6	$ 1.8	$ 2.0	$ 2
Treatment Plant Upgrades to Meet Future Demands	Unknown					
Distribution System Replacement	$ 13.7	$ 15.5	$ 17.5	$ 19.9	$ 22.5	$ 2
Upgrades Based on Future Regulations	$ 8.7	$ 0.7	$ 0.8	$ 0.9	$ 1.0	$ 1
Security Improvements	$ 1.5	$ 0.6	$ 0.7	$ 0.8	$ 0.9	$ 1
Total	**$ 40.4**	**$ 38.0**	**$ 22.3**	**$ 25.3**	**$ 28.6**	**$ 3**

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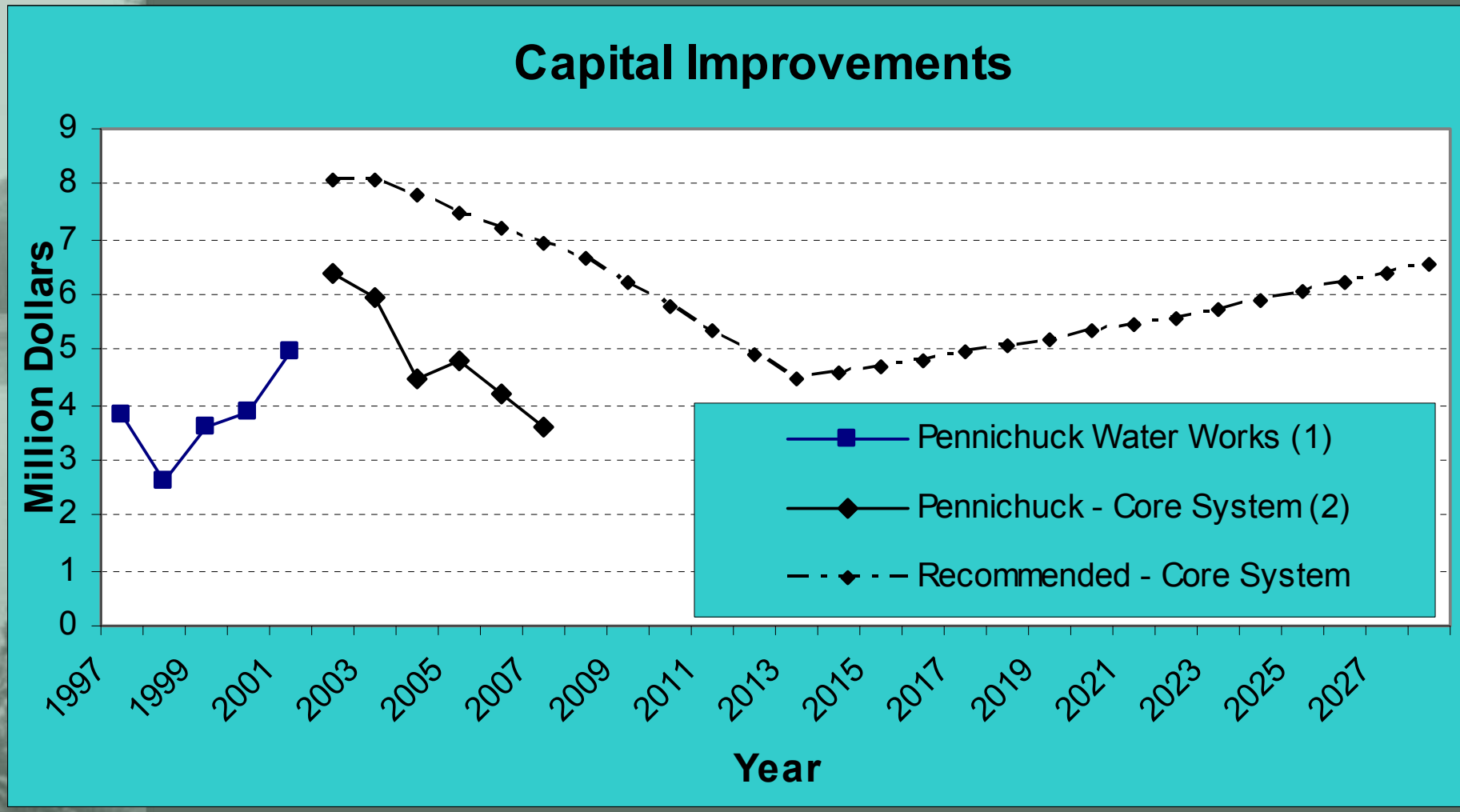
Capital Improvements Comparison

	Pennichuck Water Works (Core System)	Recommende Improvement
Supply & Watershed Improvements	$ 1.5	
• Dredging Pond System		$ 11.4
• Future Supply Source		Unknown
Direct Connection from the Merrimack River Intake Line	-	$ 1.5
Upgrades to the Merrimack River Intake Facility	-	-
Watershed Management Plan	-	$ 2.4
Treatment Plant Replacements	$ 7.8	$ 1.2
Treatment Plant Upgrades to Meet Future Demands	-	Unknown
Distribution System Replacement	$ 16.2	$ 13.7
Upgrades Based on Future Regulations	-	$ 8.7
Security Improvements	$ 0.3	$ 1.5
Total	**$ 25.8**	**$ 40.4**

Capital Improvements Comparison



1 Taken from "Summary of Monthly Capital Expenditures," Pennichuck Water Works, Inc. 1997 - 2001.
2 Taken from Exhibit K, Pennichuck Corporation and Subsidiaries, 2002 through 2006

Status of Data Requests from Pennichuck (Late July 2002)

Has NOT Been Provided:

- Hydraulic Operation of the Core System
- Hydraulic Model
- Systematic Fire Flow Information
- Age of Infrastructure Within the Core System

Provided Within the Last Two Weeks:

- Limited Fire Flow Data
- Storage and Pumping Capacity Information
- Raw Water Quality Information

Financial Analysis - Publicly Owned Utility

	2003	2004	2005	2006	2007	200
OTAL OPERATING EVENUES	**14,956,152**	**16,161,120**	**17,474,769**	**18,907,348**	**20,470,072**	**21,805**
PERATING AND AINTENANCE EXPENSES	6,790,128	7,036,018	7,290,970	7,555,324	7,829,433	8,113,
ET REVENUES	**8,166,024**	**9,125,102**	**10,183,799**	**11,352,024**	**12,640,639**	**13,692**
EBT SERVICE	2,519,930	2,519,930	8,890,992	9,390,992	9,390,992	11,346
ALANCE AFTER DEBT ERVICE	**5,646,094**	**6,605,172**	**1,292,807**	**1,961,032**	**3,249,647**	**2,345,**
ET SURPLUS (DEFICIT)	**3,209,756**	**4,062,527**	**-**	**-**	**290,347**	
OTAL ANNUAL RATE NCREASE	**4.5%**	**7.5%**	**7.5%**	**7.5%**	**7.5%**	**5.5**
UMULATIVE RATE NCREASE	**4.5%**	**12.0%**	**19.5%**	**27.0%**	**34.5%**	**40.0**

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Financial Assumptions

- Revenues will increase at 1.8% pursuant to historic trends
- Capital Improvements for expansion not reflected in the CIP will be offset by capital charges collected.
- Long term debt for public ownership is assumed to be 5.0% for 30 years.
- Long term debt for investor ownership is assumed to be 7.7% for 20 years. This debt is assumed to be the primary financing mechanism for the projection period.
- O&M expenses for both entities will be the same, with the exception of additional management allocation from PSC. It is recognized that certain integration efficiencies may be achieved with Nashua ownership.
- O&M expenses are adjusted for 2.5% annual inflation. Labor expenses are projected to increase at a rate of 3% annually. Repair and Maintenance costs are projected to increase 2.5%.

Financial Assumptions (Continued)

- Revenues reflect an automatic rate indexing of 2.5% to offset inflation.
- For the initial debt for Nashua includes the CIP, Purchase Price, $1.5 million in Working Capital, and $10 million to a renewal and replacement fund. The interest on the debt is deferred for two years.
- Positive cash flows in the initial years of Nashua ownership are transferred to a rate stabilization account and used to offset future negative cash flows.

Water Rate Comparison

	Water Rate (per 100 gallons)	Minimum Charge[1]	Average Monthly Bill[2]	Average Annual C
Pennichuck Water Works	$0.22	$10.54	$30.45	$368.76
Manchester (In-Town)[3]	$0.11	$7.60	$17.59	$212.70
Manchester (Out-of –Town)[3]	$0.12	$7.70	$18.89	$228.54
Boston	$0.33	-	$29.72	$361.58
Portland (WD Members)[4]	$0.24	$7.00	$26.42	$320.53
Portland (WD Non-members)[4]	$0.27	$8.05	$30.33	$368.07
Springfield[5]	$0.13	$15.00	$21.91	$144.93
Worcester[6]	$0.25	$4.50	$23.46	$279.56

1 Minimum charge per month/quarter or 5/8" meter rental.
2 Includes cost for family of 4 using 75 gallons per day, 9,000 gallons per month.
3 Rate for Manchester resident differ for in-town and out-of-town.
4 Minimum charge includes first 748 gallons used.
5 Minimum charge includes first 13,332 gallons used; prorated for monthly use.
6 Minimum charge includes first 1,496 gallons used.

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Bond Issue

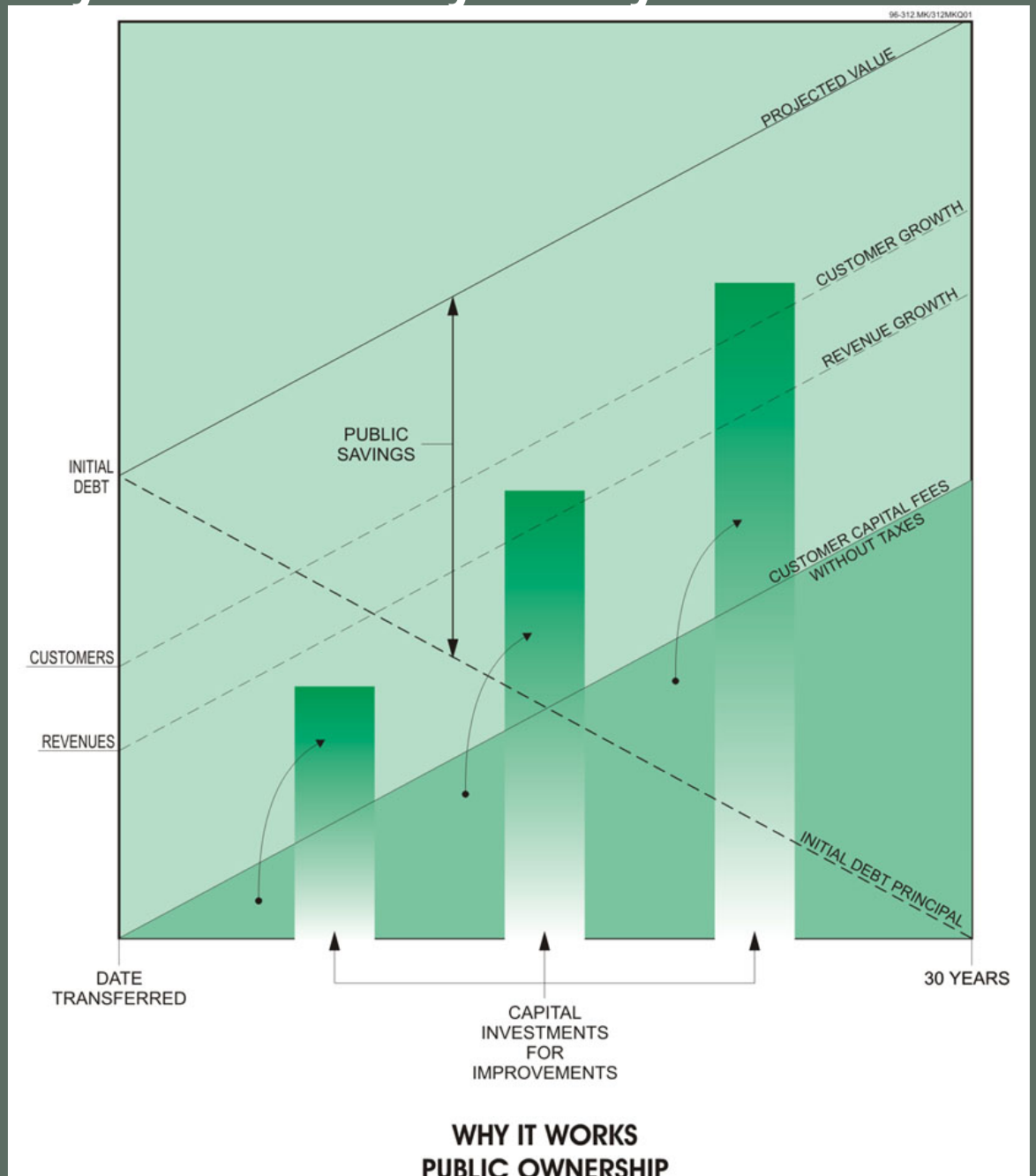
Assumptions

- 2002 – 2007 ($167,420,000)
  - $100,000,000 Acquisition Cost
  - $36,940,000 Project Cost
  - $16,600,000 Capitalized Interest
  - $1,500,000 Working Capital
  - $2,380,000 Cost of Issuance/Transactional Costs
  - $10,000,000 Deposit to R&R Fund

- 2008 – 2012 ($34,680,000)
- 2013 – 2017 ($19,410,000)
- 2018 – 2022 ($24,820,000)

- At 30 Year Term Approx. $80,000,000 in Debt
- Equity Increase of Over $250,000,000

Publicly Owned Utility – Why It Works



Why Acquire

- Renting Versus Owning Your Asset
- Long Term Cost Containment
- Provides for Long Term Service
- City Controls Level of Service
- Water Supply is an Essential Service

Where Do We Go From Here

- Enter Negotiations with Pennichuck
- Continue Due Diligence
- Provide Valuation of System
- Maintain Legal Position
- Participate in the NH PUC Proceedings

PUC Proceedings

<u>City of Nashua Can:</u>

- Recommend to the NH PUC that the merger be approved
- Recommend the merger not be approved
- Recommend that the merger be approved with conditions
- Make no recommendation on the merger

Opportunities and Recommendations

- Formation of Regional Water District
- Acquisition of Pennichuck Water Works
- Conditions to the Merger

Formation of Regional Water District

- Only Vehicles Available in New Hampshire
  - Inter-municipal Agreements (RSA 53-A)
  - Formation of Village District (RSA 52)

- Additional Legislation is Required to Enable Formation of a Regional Water District

- District Needs the Following Abilities to Function as a Regional Water District:
  - Adjust Boundaries of Operation
  - Establish Rates for Service
  - Enforce Collection of Rates
  - Enter into Long Term Contracts
  - Borrow Against the Pledge of its Revenue
  - Eminent Domain
  - Dissolution and Distribution of its Assets

Acquisition of Pennichuck Water Works

- Procedure for Acquiring a Water System is Set Forth in RSA 38
  - Obtain 2/3 Vote of Approval (City Council)
  - Confirmed Vote by Voters
  - Notify Utility Within 30 Days of Decision
  - Utility Must Reply Within 60 Days
  - Municipality and Utility May Negotiate
  - If Negotiations Fail, Municipality May Petition to the PUC
  - Within 90 Days of PUC Decision, Municipality Shall Decide Whether or Not to Acquire

- Publicly Owned Utilities Have the Following Advantages:
  - Do Not Have to Pay Dividends to Stake Holders
  - Lower Interest Rates and Borrowing Venues Available
  - Lower Taxes
  - Greater Regulatory Authority
  - Synergy of Municipal Services
  - Governance by Elected Officials

Conditions to Merger

- Limit general corporate overhead charges to the Pennichuck Utilities to no more than 1.25% of water operating revenues

- Reduce the equity percent of total capital of Pennichuck Utilities to 45%

- Implement capital improvements in the following areas:
  - Supply Pond System
  - Watershed Management
  - Treatment Plant
  - Distribution System
  - Future Regulations
  - Security

- Invest capital improvements ranging from $ 4.5 to $ 8 million per year

Conditions to Merger (Continued)

- Discontinue selling land currently owned by Southwood Corporation
- Guarantee a 10 year rate for Pennichuck Water Works customers
- Eliminate fire hydrant rental fee within the core system
- Eliminate requirement to replace water lines at Nashua's cost
- PSC or Pennichuck cannot supply water to a water bottling facility
- Prohibit water bottling facilities within the Pennichuck Watershed
- Pennichuck remain a separate Corporation as a Utility

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